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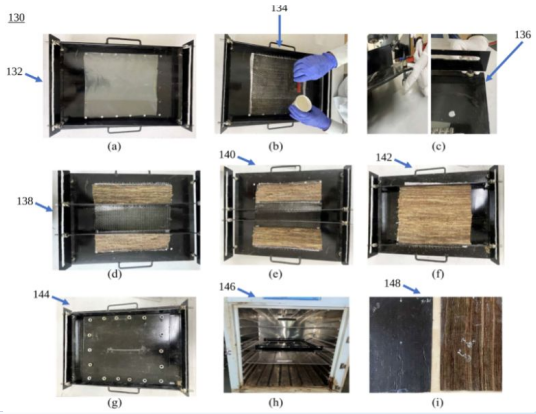
PENDING

(IN202411088170) Mould assembly and method for fabricating functionally graded hybrid fiber reinforced polymer composites



NEED

Manufacturing advanced composite materials remains a challenge. Current methods fail to precisely control fiber gradation, leading to inconsistent performance. An innovative mould design is needed to enable functional gradation of fibers during composite fabrication.

TECHNOLOGY OVERVIEW

The patent describes a mould assembly for fabricating functionally graded hybrid fiber reinforced polymer composites. The assembly uses adjustable sliders to control fiber gradation, enhancing material performance. This design improves composite consistency and provides a simple method for fabricating advanced materials.

TECHNOLOGY KEY FEATURES

Adjustable sliders facilitate fiber gradation, ensuring precise control over composite properties. Vertical and horizontal adjustments enable distinct fiber zones. The mould supports multiple layers of different fibers, enhancing material functionality.

Read more here

MARKET ANALYSIS

The global market for advanced composites is expected to grow at a CAGR of 6.3%, reaching $10.8B by 2033 (source: Markets and Markets). Increased demand for lightweight, high-performance materials in automotive, aerospace, and construction drives this growth.

Target Industries

1) Composite material manufacturers, 2) Aerospace and automotive industries, 3) Construction and infrastructure sectors.

AT A GLANCE

- SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production)

Technology is available for licensing/ co-development.

Reach out to Prof. Deepak Chitkara, Coordinator, BITS Technology Enabling Centre,
BITS Pilani Contact Details: tec.bits@pilani.bits-pilani.ac.in, 91 1596-255913

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